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EGEE 101H

Homework #3 – Critical Essay

 The paper, *Energy Systems Transformation* written by Dangerman and Schellnhuber, proposes the idea that stockholders should be held responsible for the actions of the companies that they own stock in. Dangerman and Schellnhuber raise this proposition as a solution for companies polluting in excessive amounts and only having to pay fines and face minor penalties. In their proposal, they argue that “a legal negative feedback loop establishing shareholder liability should balance the shareholders’ zest for unrestricted expansion” (Dangerman E557). This means that a legal system should be set up in order to establish investor liability for the actions of the company. This would force companies to choose between profits and investors, seeing as the illegal actions of the company would drive away any and all potential investors, due to the potential negative legal action that could quite easily be taken against them. Dangerman and Schellnhuber use the example of a house to help describe this situation. The owner of the house is responsible for anything that goes on in and around his/her house. If the chimney falls on a pedestrian walking by the house, then the owner of the house is liable for any and all damages caused. Even if the house is left under the care of another, if the chimney still falls and hits the pedestrian, it is still the owner of the house who is at fault. Dangerman and Schellnhuber propose to make companies and investors into a similar situation. The investors own the company and the CEO and board of directors merely run it for the investors. The stockholders have the power to change the direction in which the company goes as well as its business strategy, but the decisions of how to go about this are left to the executives of the company. Through this logic, the stockholders are leaving their property in the hands of another person who does not own the property. Therefore, the stockholders should be held responsible for any and all illegal activities that the company engages in. Dangerman and Schellnhuber felt that this would result in companies polluting less due to the liability that their stockholders face for the companies actions. They also felt that this reform could help spur a change to greener energies, seeing as green energy companies would begin to get more investors that had left big energy corporations. They argue that we would enter into a sort of transition period in which we begin to change what type of energy we rely upon the most heavily.

 Van Den Bergh wrote a critique of the paper written by Dangerman and Schellnhuber entitled *Policies to enhance economic feasibility of a sustainable energy transition.* This critique called into question the feasibility of a complete implementation of the reform proposed by Dangerman and Schellnhuber. Van Den Bergh argues that, “once implemented, few investors would dare to still invest in dirty industries. Because these make up perhaps 90% or more of the economy, a drastic change in investment would create a serious risk of economic instability” (Van Den Bergh 2437). This statement points out that any sort of quick and drastic change in the proposed direction could potentially end in disaster. He also argues that Dangerman and Schellnhuber fail to address the indirect effects in a transition period from our current energy sources to that of renewable energy. Because of this, he deems their analysis “incomplete” (Van Den Bergh 2436).

 Vaclav Smil, in his book *Energy*, talks about how American car ownership has increased from around three people to one vehicle in 1970 as compared to roughly two people per vehicle in 2005 (Smil 193). This coupled with fuel consumption resting at thirty percent higher than it was in 2005 adds more pollution to the atmosphere through the cooperation of the automobile industry and the petroleum industry. A group of Japanese researchers found that, the longer the lifespan of a car, the more adverse effect on the environment it will have. This is because the car will need much more gasoline than more modern models, allowing for increased profits for oil companies as well as increased pollution levels (Kagawa). This, Dangerman and Schellnhuber would argue, is one situation where their proposal would help to dramatically decrease pollution. Car companies would begin to shorten the lifespan of cars so as to be constantly releasing and selling more fuel efficient models, thus cutting down on pollution.

*Energy* by Vaclav Smil; Copyright 2006; Oneworld Publications

 Dangerman ATCJ, Schellnhuber HJ (2013) Energy systems

transformation. Proc Natl Acad Sci USA 110:E549–E558.

*Policies to enhance economic feasibility of a sustainable energy transition* by van den Bergh; February 12th, 2013

*Role of Motor Vehicle Lifetime Extension in Climate Change Policy*; Shigemi Kagawa \*†, Keisuke Nansai ‡, Yasushi Kondo §, Klaus Hubacek , Sangwon Suh #, Jan Minx , Yuki Kudoh , Tomohiro Tasaki ‡, and Shinichiro Nakamura §; Publication Date (Web): January 25, 2011; Copyright © 2011 American Chemical Society